

Response Supplemental To response Dated 07/19/2005  
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### AMENDMENT TO THE SPECIFICATION

Please amend paragraph [0065] of the published application as follows:

[0065] In block 11 the algorithm chooses a dictionary element from the set  $D$ . Any method of scoring possible selections may be plausible so long as the chosen element is close to optimal for at least one of the vectors  $X_{sup.i}$ . By optimal, we mean that the magnitude of the inner product of some  $X_{sup.i}$  with the selected dictionary element  $g_{sub.n}$  is close to the maximum possible value of all possible elements of  $D$ . To quantify what is meant by "close", we define a value called  $\alpha$ , that is larger than zero and less than or equal to one and write the equation shown in block 11.  $\alpha$  may be fixed, or may change with  $n$  or  $i$ . Certain highly technical mathematical aspects of the scoring and choice methods will guarantee convergence of the algorithm, these are discussed by the inventor in Sieracki, J. M., "Greedy Adaptive Discrimination signal component analysis by simultaneous matching pursuits with application to EcoG signature detection," University of Maryland Doctoral Dissertation, Library of Congress United States Copyright Office publication deposit date Jun. 10, 2003, registration date June 13, 2003 [hereinafter cited as "Dissertation"], incorporated by reference herein as though set forth in full. From a practical perspective, however, convergence is not always necessary for the algorithm to be useful.